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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,999	02/06/2002	Bernard Aspar	034299-382	3061

7590

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EXAMINER

RICHARDS, N DREW

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/071,999

Applicant(s)

ASPAR ET AL.

Examiner

N. Drew Richards

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/413,483.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 23 is objected to because of the following informalities: "characterized" is misspelled in line 1. Appropriate correction is required.
2. Applicant is advised that should claim 28 be found allowable, claim 34 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the metal layer at the conductive interface and the conductive bonding materials must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 21, 22, 24-29, and 32-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 21 recites "multitude of zones" in line 2. This is indefinite as it is not clear whether the same zones are being claimed as in claim 20 or whether new zones are being claimed. Claim 21 recites "these zones" in line 3. This is indefinite as it is not clear whether the zones claimed are the at least one zone of claim 20 or new zones of claim 21 line 2. It is suggested that these passages recite "multitude of said zones" and "said multitude of zones."

Claim 22 recites "one zone or a plurality of zones" in lines 2-3. This is indefinite as it is not clear whether the same zones are being claimed as in claim 20 or whether new zones are being claimed. It is suggested that this passage recite "one of said zones or a plurality of said zones." Claims 28, 29, 32 and 34-36 depend from claim 22 and are thus indefinite as they include the same indefinite limitations as claim 22.

Claim 24 recites the limitation "the conductive interface" in line 2. There is no antecedent basis for this limitation in the claim. Claims 25 and 33 depend from claim 24 and are thus indefinite as they include the same indefinite limitations as claim 24.

Claim 26 recites the limitation "said metal interface layer" in line 2. there is no antecedent basis for this limitation in the claim. Claim 27 depends from claim 26 and are thus indefinite as they include the same indefinite limitations as claim 26.

Claim 33 is further indefinite as it recites the limitation "said metal interface layer" in line 2. There is no antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 20-23, 26, 28-32 and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Morris et al. (U.S. Patent No. 5,369,042).

Morris et al. disclose in figure 2e a thin layer of a semiconductive material made insulating by ion implantation except for at least one zone that allows a vertical electrical connection through the entire thickness of the thin layer. Thin layer 52,64 is semiconductive and portions 118 are made insulating by implanting oxygen such that the central portion remains as a vertical electrical connection through the entire thickness of the thin layer.

With regard to claim 21, the thin layer comprises a multitude of zones 52,64 distributed over the entire surface.

With regard to claim 22, the thin layer comprises one zone to constitute at least one conductive path.

With regard to claim 23, the thin layer is made integral with a support 50 through an intermediate conductive surface (bottom surface of layers 52,64).

With regard to claim 26, the bottom surface of layers 52,64 are considered conductive bonding materials as they are conductive and they bond the bulk of layers 52,64 to support 50. The limitation of deposition is a product by process limitation that is not structurally distinguishing over the prior art.

With regard to claim 28, the thin layer is made integral with a support 50 through the use of a brazing material (bottom surface of layers 52,64).

With regard to claim 29, the brazing material is based on indium as layers 52,64 are disclosed as being such materials as InGaAs, InP, or GaInP.

With regard to claim 30, the material of the thin layer is GaAs.

With regard to claim 31, the support is disclosed as being silicon as on column 6 lines 15-20, Morris et al. disclose that the device may be a silicon device and would therefore be formed upon a silicon substrate.

With regard to claim 32, the thin layer is made integral with a support 50 through an intermediate conductive interface (the interface between conductive material 52,64 and support 50).

With regard to claim 34, the thin layer is made integral with a support 50 through the use of a brazing material (bottom surface of layers 52,64).

With regard to claim 35, the material of the thin layer is GaAs.

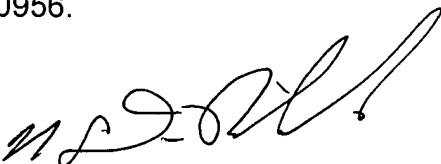
With regard to claim 36, the support is disclosed as being silicon as on column 6 lines 15-20, Morris et al. disclose that the device may be a silicon device and would therefore be formed upon a silicon substrate.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Drew Richards whose telephone number is (703) 306-5946. The examiner can normally be reached on M-F 8:00-5:30; Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
NDR  
January 27, 2003

  
EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
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